



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/553,379

10/18/2005

Gerhard Eser

78857.105313

3677

86528

7590

02/02/2010

King & Spalding LLP
401 Congress Avenue
Suite 3200
Austin, TX 78701

EXAMINER

COLEMAN, KEITH A

ART UNIT

PAPER NUMBER

3747

MAIL DATE

DELIVERY MODE

02/02/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/553,379	Applicant(s) ESER ET AL.	
	Examiner KEITH COLEMAN	Art Unit 3747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10, 12-17, 19-23, 25 and 26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10, 12-17, 19-23, 25, and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/2/2009 has been entered.

Status of the Claims

Claims 1-9, 11, 18, and 24 have been cancelled. Claims 25 and 26 have been added. Overall, claims 10, 12-17, 19-23, 25, and 26 are pending in this case.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10, 12-17, 19-23, 25, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Amann et al. (US Patent No. 5,345,916).

Art Unit: 3747

With regards to claims 10, 12, 25 and 26, the patent to Amann et al. discloses a method for controlling a fuel pressure in a fuel supply device of an internal combustion engine having a regulator valve, the method comprising the steps of: determining a desired fuel pressure value (i.e. predetermined classic injection profiles, See Col. 4, Lines 45-55); determining an actual fuel pressure value (i.e. the fuel pressure pulses, See Figure 6); determining an actual **fuel pressure** gradient **from at least two consecutive actual fuel pressure values** (Figure 6 shows pumping rate measured in mm³/degree and fuel pressure pulses) comparing the calculated actual **fuel pressure** gradient to a specified threshold gradient value (See Figure 5A and 5B); and if the calculated actual **fuel pressure** gradient is above the specified threshold gradient value then determining an actuating signal as a function of the desired fuel pressure value and the calculated actual **fuel pressure** gradient controlling said regulator valve with said actuating signal (See Col. 4, Lines 30-45) Note: Applicant has defined "gradient" as a change in pressure values as discussed in Paragraph 24. As such, Amann et al. clearly monitors the flow rates as shown in Figures 5 and 6 and discussed on Col. 5, Lines 15-30.

As to the limitation of "a means by a flow sensor", Amann et al calculates flow by the differences in voltage from the cam angle.

With regards to claims 13 and 19, the patent to Amann et al. discloses wherein the regulator valve is an electromagnetic regulator and an excitation of the

Art Unit: 3747

electromagnetic regulator is influenced by the actuating signal (See Col. 4, Lines 30-40).

With regards to claims 14-17 and 20-23, the patent to Amann et al. discloses if the flow rate increases decreasing an energization of the electromagnetic regulator and if the flow rate falls increasing the energization of the electromagnetic regulator (See Col. 4, Lines 30-55).

Response to Arguments

2. Applicant's arguments filed 11/2/2009 have been fully considered but they are not persuasive.

Applicant's Arguments

Applicant contends that no fuel pressure gradient is disclosed by Amann et al.

Examiner's Response to Arguments

Applicant has defined "gradient" as a change in pressure values as discussed in Paragraph 24.

"[0024] In a step S2, a fuel pressure set point FUP_SP is determined as a function of the engine speed N, the amount of fuel to be injected MFF_SP and the operating state

Art Unit: 3747

BZ of the internal combustion engine, e.g. homogeneous or stratified charge operation.

In a step S3, the actual fuel pressure value FUP_AV which is detected by the pressure sensor 58 is determined and from it the fuel pressure gradient FUP_DT_AV is

determined. **The gradient, which is also known as the time derivative, can be**

determined by means of any approximation method. It is most easily determined

as a function of two consecutive actual fuel pressure values FUP_AV."

Amann et al. clearly monitors the flow rates as shown in Figures 5 and 6 and discussed on Col. 5, Lines 15-30. These figures clearly show monitoring consecutive values and differences in pulses.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yu (US Patent Publication 20030051709) shows the current state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEITH COLEMAN whose telephone number is (571)270-3516. The examiner can normally be reached on 5:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Cronin can be reached on (571)272-4536. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3747

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KAC

/K. C./

Examiner, Art Unit 3747

/Stephen K. Cronin/

Supervisory Patent Examiner, Art Unit 3747